ABSTRACT

"Detector Assemblies and Methods"

The rotational position of a shaft (10) with respect to a sleeve (12) is determined by using a sensor (14) rotating with the shaft (10) to detect an earth vector such as magnetic or gravitational field, using a coil (18) on the shaft in conjunction with a plurality of ferromagnetic elements (16) on the sleeve to monitor relative rotation, and calculating the rotational position from these parameters. Applicable to downhole use, particularly gamma ray measurements.